REMARKS

Claims 1-11 are pending in this application. Claim 10 has been withdrawn from consideration. Claim 11 has been rejected under 35 USC §112, first paragraph. However, claim 11 has been canceled in this communication.

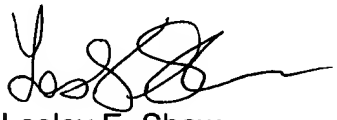
The examiner has also rejected claims 1-9 and 11 under 35 USC §103(a) as unpatentable over Rath (US 5,408,018). However, applicants have amended claim 1, from which claims 1-9 depend. Additionally, claim 11 has been canceled. Support for the amendment to claim 1 may be found on page 7, lines 22-38. Accordingly, applicants believe the claims are not obvious in view of the '018 patent and request the rejection be withdrawn.

In view of the foregoing amendments and remarks, applicants consider that the rejections of record have been obviated and respectfully solicit passage of the application to issue.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

KEIL & WEINKAUF



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

1. (Currently Amended) A process for preparing highly reactive polyisobutenes having a terminal vinylidene group content of more than 80 mol% and a number average molecular weight of from 500 to 5000 dalton by cationic polymerization of isobutene in the liquid phase in the presence of a complex comprising boron trifluoride at from +40°C to -60°C, which comprises polymerizing in the presence of a complex comprising boron trifluoride and

a) a primary alcohol having 1-20 carbon atoms or a secondary alcohol having 3-20 carbon atoms, or a mixture of these alcohols, and

b) ~~an~~ a bis-secondary ether containing no tertiary alkyl groups and having the formula I

$$R^1\text{-}O\text{-}R^2 \qquad I,$$

where R^1 and R^2 are ~~primary or~~ secondary alkyl groups having 3-10 carbon atoms~~, with the proviso that at least one of R^1 and R^2 is a secondary alkyl group.~~

2. (Original) A process as claimed in claim 1, wherein the secondary alcohol a) used is isopropyl alcohol and/or 2-butanol.

3. (Original) A process as claimed in claim 1, wherein the ether b) used is diisopropyl ether, di-sec-butyl ether and/or isopropyl sec-butyl ether.

4. (Original) A process as claimed in claim 1, wherein the primary and/or secondary alcohol a) and the ether b) are used in a molar ratio of from 0.01 to 10:1.

5. (Original) A process as claimed in claim 1, wherein the primary and/or secondary alcohol a) and the ether b) are used in a molar ratio of from 0.02 to 2:1.

6. (Original) A process as claimed in claim 1, wherein boron trifluoride, primary and/or secondary alcohol and ether are combined in the polymerization reactor to generate the complex in situ in the polymerization mixture.

7. (Original) A process as claimed in claim 1, wherein the boron trifluoride/ether complex is preformulated and is introduced, together with the primary and/or secondary alcohol separately, into the solvent or monomer feed to the reactor or directly into the reactor.

8. (Original) A process as claimed in claim 1, wherein polyisobutenes having a terminal vinylidene group content of more than 90 mol% are polymerized at an isobutene conversion of up to 95% using a preformed boron trifluoride/isopropanol/diisopropyl ether complex, a molar secondary alcohol/ether ratio of from 2:1 to 1:5 and a boron trifluoride/diisopropyl ether ratio of from 0.6:1 to 0.9:1.

9. (Original) A process as claimed in claim 1, wherein the isobutene source is a C_4 cut comprising isobutene in an amount of at least 6% by weight.

10. (Withdrawn) A polyisobutene having an average molecular weight of from 500 to 5000 dalton and a terminal vinylidene group content of more than 90%, obtainable by cationic polymerization of isobutene in the liquid phase with the aid of boron trifluoride as catalyst at from 40°C to -60°C in the presence of a boron trifluoride complex with

a) a primary alcohol having 1-20 carbon atoms or a secondary alcohol having 3-20 carbon atoms, or a mixture of these alcohols, and

b) an ether containing no tertiary alkyl groups and having the formula I

$$R^1\text{-}O\text{-}R^2 \qquad I,$$

where R^1 and R^2 are primary or secondary alkyl groups having 3-10 carbon atoms, with the proviso that at least one of the radicals R^1 and R^2 is a secondary alkyl group.

11. (Canceled)